REMARKS

The Applicant respectfully requests further examination and reconsideration in view of the arguments set forth fully below. Claims 1-49 were previously pending in this application. Within the Office Action, claims 1-49 have been rejected.

Double Patenting

Within the Office Action, claims 1-40 and 42 have been provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of claims 1-96 of co-pending Application No. 09/801,138, and claims 41 and 43-49 have been provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of claims 1-42 of co-pending Application No. 09/799,032.

The independent claim 1, 15, 25, 39, 49, 63, 73, and 87 of Application No. 09/801,138 and the independent claims 1, 14, 27, 37, and 42 of the present application vary in scope. Specifically, the independent claims 1, 15, 25, 39, 49, 63, 73, and 87 of Application No. 09/801,138 are directed to performing a search using three search methodologies. The independent claims 1, 14, 27, 37, and 42 of the present application are directed to repeatedly performing a search using four search methodologies until a research task is completed. Therefore, the independent claims within the present application and the independent claims within the Application No. 09/801,138 are not directed to the same invention.

The independent claims 1, 12, 23, and 34 of Application No. 09/799,032 and the independent claims 41, 43, and 47 of the present application also vary in scope. Specifically, the independent claims 1, 12, 23, and 34 of Application No. 09/799,032 are directed to formatting a searchable database into a directory tree structure, accessing a discrete data item via a navigation path and one or more set parameters, setting a notification signal, triggering the notification signal, and notifying the user. The independent claim 41 of the present invention is directed to repeatedly performing a search of a directory tree structure using four search methodologies, accessing a discrete data item, setting a notification signal, notifying a user in response to triggering the notification signal, accessing the directory tree structure and obtaining data by an external system using an applications programming interface (API), and displaying data from the directory tree structure in an encyclopedia-like format. The independent claim 43 of the present application is directed to repeatedly performing a search of a directory tree structure using four search methodologies, and accessing a discrete data item using a query string. The independent claim 47 of the present application is directed to repeatedly performing a search of a directory tree structure using four search methodologies, and accessing the directory tree structure and

obtaining data by an external system using an applications programming interface (API). Therefore, the independent claims within the present application and the independent claims within the Application No. 09/799,032 are not directed to the same invention.

Specification

Within the Office Action, the Applicant is requested to submit the status of all related applications referenced within the specification. The status of the referenced applications is pending. By the above amendments, the status, filing data and serial number of each referenced co-pending application is included within the specification.

Rejections under 35 U.S.C. §102(e)

Within the Office Action, claims 1-3, 6-16, 19-40, and 42 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,098,066 issued to Snow et al. (hereafter "Snow"). The Applicant respectfully traverses this rejection for the following reasons.

Snow teaches formatting a searchable database into a tree structure of directories. Each directory includes a document vector for each document within the directory. Each document vector is created by splitting the document into terms and associating a weight to each term based on the frequency with which the term is found in the document. In other words, each document is tagged with a list of terms, and their weights, found within the document. The tags are subsequently searched during keyword searches. Since most words in the document are tagged as "terms", the document vector does not effectively reduce the number of searchable keywords within the document. Snow then performs an adapted version of a keyword search. More specifically, Snow teaches categorizing documents, and then performing a keyword search by first specifying the category in which the keyword search is to be performed and then performing the keyword search within that category.

Further, Snow does not teach how a user subsequently searches the documents for specific values of predetermined parameters, for example using a parametric search. Snow teaches searching documents based on a keyword search of the indexed (tagged) terms. A keyword search is not the same as a parametric search. Snow is not designed to determine and tag documents according to their attribute-value pairs (parameter field names and their values), and to then search for documents according to specified values of predetermined parameters.

The present invention includes categorizing and parameterizing individual data items within a directory tree structure. Discrete data items can be located by defining a navigation path

through the directory tree structure to a node associated with the discrete data item. Further, one or more parameters are associated with each discrete data item corresponding to a particular node. These one or more parameters are not keywords, or terms, as in Snow, but instead, each parameter defines a generic field (parameter field) to which a specific value corresponding to the discrete data item is associated. For example, at a "real estate" node, a parameter field name can be "number of rooms" or "price". The parameter field name is different than the actual value eventually associated with the parameter field name in relation to a specific data item. Continuing the example, homes for sale may be described in property fliers. A generic property flier can include many parameters used to describe the home for sale, where each parameter is identified by its parameter field name. The generic property flier can include parameters with parameter field names such as "number of bedrooms", "number of bathrooms", "square footage", "address", and "price". A particular data item associated with the real estate node can be a property flier for a specific home for sale. The parameter with parameter field name "number of bedrooms" has a value of "3", in this case, and so on for each of the parameters associated with the property flier. In this manner, it is clear that the value of each parameter, which is specific to a particular data item, is different than the parameter field name of each parameter, which generically defines the type of the parameter.

Snow teaches searching documents based on a keyword search. Snow does not teach determining and tagging documents according to their attribute-value pairs (parameter field names and their values), and to then search for documents within a directory tree structure according to specified values of the predetermined parameters.

Additionally, there is no hint, teaching or suggestion within Snow that indicates the use of a dichotomous key search. A dichotomous key search uses a dichotomous key structure, which is a binary key structure or two-node tree. This structure is used as a decision tree mechanism to instruct users in deciphering information given in an answer or question dialog, often a yes or no answer. Examples of this include diagnosing a medical disease, diagnosing a mechanical problem, and working a system such as classifying a biological species by physical attributes. The present application uses a dichotomous key search, as is claimed in the independent claims 1, 14, 27, 37, 41, 42, 43, and 47.

Within the Office Action, it is stated that Snow teaches a subsequent search to correlate a subsequent search criteria to a previously matched item to generate a subsequent matching item which is a sub-segment of the previously matched item, and that the subsequent search is performed utilizing a hierarchical search, a dichotomous key search or a parametric search. To

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support this assertion, column 4, lines 11-24 and column 7, lines 61-66 of Snow are cited. The Applicant respectfully disagrees with this conclusion. The cited passages of Snow teach a searching method where a user query includes one or more search terms, that is the keyword search previously described above. The cited passages of Snow also teach that after the search results are obtained, the user can modify the original search terms to further limit the search. In other words, another keyword search is performed. Snow does not teach that a subsequent search is performed using either a hierarchical search, a dichotomous key search, or a parametric search.

Still further, within the Office Action, it is stated that because the category of Snow includes documents, Snow must include text or graphics when displayed to users, and therefore Snow teaches displaying a collection of related data in an encyclopedia-like format. The Applicant respectfully disagrees with this conclusion. The Applicant contends that there is no support within Snow to reach such a conclusion. In column 8, lines 28-31 of Snow, it is stated that at step 114 (Figure 7 of Snow) information corresponding to each document is displayed by category, and that this information includes a synopsis and document link. In other words, text. Snow does not teach that the information is displayed in an encyclopedia-like entry. The encyclopedia-like entry of the present invention includes a graphics section, a text section, an internal links section, and an external links section (Specification , page 32, line 3 to page 33, line 8).

Claim 1 is directed to a method of performing a research task within a searchable database. The method of Claim 1 comprises the steps of utilizing a selective one or more search methodologies including keyword search, hierarchical search, dichotomous key search, and parametric search to correlate a search criteria to a searchable database for generating one or more matching items, wherein each matching item corresponds to a segment of the searchable database, utilizing a selective one or more search methodologies including keyword search, hierarchical search, dichotomous key search, and parametric search to correlate a subsequent search criteria to one of the matching items for generating one or more subsequent matching items, wherein each subsequent matching item is a sub-segment of the matching item used to generate the subsequent matching item, and further wherein the subsequent search criteria is a selective one of the search criteria and a different search criteria, and repeating the above steps until the research task is completed. As discussed above, Snow does not teach using a dichotomous key search. Further, Snow does not teach using a parametric search. Still further, Snow does not teach performing a subsequent search on previous search results using

hierarchical search or dichotomous key search. For at least these reasons the independent claim 1 is allowable over the teachings of Snow.

Claims 2, 3, and 6-13 depend on the independent claim 1. As described above, the independent claim 1 is allowable over the teachings of Snow. Accordingly, claims 2, 3, and 6-13 are all also allowable as being dependent on an allowable base claim.

Claim 14 is directed to a research system for performing a research task within a searchable database. The research system of Claim 14 comprises means for accessing the searchable database, and means for utilizing a selective one or more search methodologies including keyword search, hierarchical search, dichotomous key search, and parametric search coupled to the means for accessing to correlate a search criteria to the searchable database for generating one or more matching items, wherein each matching item corresponds to a segment of the searchable database. As discussed above, Snow does not teach using a dichotomous key search. Further, Snow does not teach using a parametric search. For at least these reasons the independent claim 14 is allowable over the teachings of Snow.

Claims 15, 16, and 19-26 depend on the independent claim 14. As described above, the independent claim 14 is allowable over the teachings of Snow. Accordingly, claims 15, 16, and 19-26 are all also allowable as being dependent on an allowable base claim.

Claim 27 is directed to a research system for performing a research task within a searchable database. The research system of Claim 27 comprises a research server configured to utilize a selective one or more search methodologies including keyword search, hierarchical search, dichotomous key search, and parametric search to correlate a search criteria to the searchable database coupled to the research server for generating one or more matching items, wherein each matching item corresponds to a segment of the searchable database, to utilize a selective one or more search methodologies including keyword search, hierarchical search, dichotomous key search, and parametric search to correlate a subsequent search criteria to one of the matching items for generating one or more subsequent matching items, wherein each subsequent matching item is a sub-segment of the matching item used to generate the subsequent matching item, further wherein the subsequent search criteria is a selective one of the search criteria and a different search criteria, and to repeat the utilization of a selective one or more search methodologies including keyword search, hierarchical search, dichotomous key search, and parametric search to correlate a subsequent search criteria to one of the matching items for generating one or more subsequent matching items, wherein each subsequent matching item is a sub-segment of the matching item used to generate the subsequent matching item, further

wherein the subsequent search criteria is a selective one of the search criteria and a different search criteria, until the research task is completed. As discussed above, Snow does not teach using a dichotomous key search. Further, Snow does not teach using a parametric search. Still further, Snow does not teach performing a subsequent search on previous search results using hierarchical search or parametric search. For at least these reasons the independent claim 27 is allowable over the teachings of Snow.

Claims 28-36 depend on the independent claim 27. As described above, the independent claim 27 is allowable over the teachings of Snow. Accordingly, claims 28-36 are all also allowable as being dependent on an allowable base claim.

Claim 37 is directed to a network of devices for performing a research task within a searchable database. The network of devices of Claim 37 comprises one or more computer systems configured to communicate with other systems, and a research server configured to couple to the one or more computer systems to utilize a selective one or more search methodologies including keyword search, hierarchical search, <u>dichotomous key search, and parametric search</u> to correlate a search criteria to the searchable database coupled to the research server for generating one or more matching items, wherein each matching item corresponds to a segment of the searchable database, to utilize a selective one or more search methodologies including keyword search, <u>hierarchical search, dichotomous key search, and parametric search to correlate a subsequent search criteria to one of the matching items for generating one or more subsequent matching items,</u> wherein each subsequent matching item is a sub-segment of the matching item used to generate the subsequent matching item, further wherein the subsequent search criteria is a selective one of the search criteria and a different search criteria, and to repeat the utilization of a selective one or more search methodologies including keyword search, hierarchical search, dichotomous key search, and parametric search to correlate a subsequent search criteria to one of the matching items for generating one or more subsequent matching items, wherein each subsequent matching item is a sub-segment of the matching item used to generate the subsequent matching item, further wherein the subsequent search criteria is a selective one of the search criteria and a different search criteria, until the research task is completed. As discussed above, Snow does not teach using a dichotomous key search. Further, Snow does not teach using a parametric search. Still further, Snow does not teach performing a subsequent search on previous search results using hierarchical search or parametric search. For at least these reasons the independent claim 37 is allowable over the teachings of Snow.

Claims 38-40 depend on the independent claim 37. As described above, the independent claim 37 is allowable over the teachings of Snow. Accordingly, claims 38-40 are all also allowable as being dependent on an allowable base claim.

Claim 42 is directed to a method of performing a research task within a searchable database. The method of Claim 42 comprises the steps of utilizing a selective one or more search methodologies including keyword search, hierarchical search, <u>dichotomous key search, and parametric search</u> to correlate a search criteria to the searchable database for generating one or more matching items, wherein each matching item corresponds to a segment of the searchable database, utilizing a selective one or more search methodologies including keyword search, <u>hierarchical search, dichotomous key search, and parametric search to correlate a subsequent search criteria to one of the matching items for generating one or more subsequent matching items</u>, wherein each subsequent matching item is a sub-segment of the segment of the searchable database, and further wherein the subsequent search criteria is a selective one of the search criteria and a different search criteria, selecting one of the subsequent matching items, and <u>displaying a collection of related data corresponding to the selected subsequent matching item into an encyclopedia-like format</u>, wherein the encyclopedia-like format includes text, graphics, and links to related objects. As discussed above, Snow does not teach using a dichotomous key search. Further, Snow does not teach using a parametric search. Still further, Snow does not teach performing a subsequent search on previous search results using dichotomous key search or parametric search. Still further, Snow does not teach formatting and displaying related data in an encyclopedia-like entry. For at least these reasons the independent claim 42 is allowable over the teachings of Snow.

Rejections under 35 U.S.C. §103(a)

Within the Office Action, claims 4, 5, 17, and 18 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Snow in view of U.S. Patent No. 6,327,588 issued to Danish et al. (hereafter "Danish"). The Applicant respectfully traverses this rejection.

Claims 4 and 5 are dependent on the independent claim 1. Claims 17 and 18 are dependent on the independent claim 14. As discussed above, the independent claims 1 and 14 are each allowable. Accordingly, claims 4, 5, 17, and 18 are all also allowable as being dependent on an allowable base claim.

Within the Office Action, claims 41 and 43-49 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Snow in view of U.S. Patent No. 6,292,796 issued to Drucker

et al. (hereafter "Drucker"). The Applicant respectfully traverses this rejection for the following reasons.

As discussed above, Snow does not teach how a user subsequently searches the documents for specific values of predetermined parameters, for example using a parametric search. Snow teaches searching documents based on a keyword search of the indexed (tagged) terms. Snow is not designed to determine and tag documents according to their attribute-value pairs, and to then search for documents according to specified values of predetermined parameters. Further, since Snow does not search for documents according to specified values of predetermined parameters, Snow can not teach saving the values used in such a search, and then using these saved parameter values to determine if new documents added to the system match these saved parameter values, and if so, sending a notification signal to indicate so.

Further, within the Office Action, it is stated that element 102 of Figure 7 in Snow is the same as accessing a node within the directory tree structure using a query string as claimed in the present application. The Applicant respectfully disagrees with this conclusion. In Figure 7 of Snow, element 102 is illustrated as "get a user query". In column 8, lines 4-7 of Snow, a user query is described as "a number of documents desired and one or more search items" and "the user query may include a user selected category". The user query is nothing more than the search parameters used in the keyword search process described above. In contrast, a query string as claimed in the present invention is described as a specific query language to navigate through the directory tree structure to access a specific node or a discrete data item within the directory (Specification, page 35, lines 9-10) The structure of the query language of the present invention is preferably similar to that of SQL (structured query language), but it is specific to the combined technologies of accessing the directory tree structure and setting parameters for a search (Specification, page 35, lines 17-19). Further, the independent claims 41, 43, and 47 of the present application claim a query string, where the query string defines a navigation path through the directory tree structure to access a specific node within the directory tree structure. Clearly, the query string of the present invention defines the results of a search process, that is the specific node defined by its path through the directory tree structure. The user query of Snow defines search parameters to be used in a subsequent keyword search. In other words, at the point that the user query is defined, the search has yet to be performed. Snow does not teach that the results of the search can be saved as a query string and that the query string can be subsequently used to re-access the directory tree structure at the point defined by the query string.

Still further, within the Office Action, it is stated that Snow teaches accessing the directory using an application programming interface. Specifically, Figure 2 of Snow is cited to support this assertion. The Applicant respectfully disagrees with this conclusion. Figure 2 of Snow is a flow diagram of the main program loop utilized in creation of the class hierarchy. There is no hint, teaching, or suggestion within Figure 2 of Snow, or the detailed description of Figure 2, as to using an application programming interface (API) to access the class hierarchy. In fact, there is no mention of an API for any use within Snow.

Drucker teaches an access mechanism that searches current and past literature and selects some or all of the literature for a user, based on criteria established for the user. In a user setup 404, user preferences and profile information are established for a user. The user may also specify search preferences such as the type of literature that is to be searched and the time frame of the search. Additional search criteria is specified using a record link 406, a standing search 408, and an ad hoc access 410. An access mechanism 402 is used to perform filtering after a search is completed. A search is performed on the databases using search criteria obtained from values established in user setup 404, record link 406, standing search 408, and ad hoc access 410. Filtering is then performed on the results of the search query. The search query searches keywords associated with an article, an article's title and/or an article's abstract (Drucker, col. 9, lines 30-32). The user can be notified when a search yields results. In summary, Drucker teaches a keyword search methodology where the search results can be sent to a user using a conventional push technology. However, Drucker does not teach a proactive notification of targeted information, where the information is formatted in a searchable directory tree structure and the information is defined within the directory tree structure according to a navigation path and set parameters, as taught by the present invention.

Both Snow and Drucker teach searching documents based on a keyword search. Neither Snow, Drucker, nor their combination teach determining and tagging documents according to their attribute-value pairs (parameter field names and their values), and to then search for documents within a directory tree structure according to specified values of the predetermined parameters. Further, since neither Snow, Drucker, nor their combination perform a search according to specified values of the predetermined parameters, neither Snow, Drucker, nor their combination teach saving the values used in such a search, and then using these saved parameter values to determine if new documents added to the system match these saved parameter values, and if so, sending a notification signal to indicate so.

Claim 41 is directed to a method of performing a research task within a searchable database. The method of Claim 41 comprises the steps of performing one or more searches by utilizing a selective one or more search methodologies for each search, the search methodologies including keyword search, hierarchical search, dichotomous key search, and parametric search, to correlate a search criteria to a searchable database for generating one or more matching items, wherein the searchable database is formatted in a directory tree structure and each matching item represents a node from within the directory tree structure, wherein the node is a collection of related data, and further wherein as each successive search is performed the generated matching items represent nodes which reside further down the directory tree structure than the node from which the successive search is performed, categorizing each item of data by a navigation path through the directory tree structure and by one or more parameters which are specific to the node in which the data is included, accessing a specific node within the directory tree structure using a query string, wherein the query string defines the navigation path through the directory tree structure to access the specific node within the directory tree structure, accessing a discrete item of data using the query string and one or more set parameters and setting a notification signal by saving the query string and the one or more set parameters, notifying a user of new data entered into the searchable database in response to triggering of the notification signal, wherein triggering of the notification signal occurs when new data is entered into the searchable database and the navigation path and set parameters of the new data match the query string and set parameters saved according to the set notification signal, accessing one or more nodes within the directory tree structure and obtaining data from the one or more nodes by an external system utilizing an applications programming interface, wherein the applications programming interface accesses the one or more nodes within the directory tree structure using the query string, and displaying the collection of related data for a particular node in an encyclopedia-like format, wherein the encyclopedia-like format includes text, graphics, links to related topics within the directory tree structure, links to related web sites external to the directory tree structure, or any combination thereof. As discussed above, neither Snow, Drucker, nor there combination teach using a query string to access a specific node within the directory tree structure, using a dichotomous key search, using a parametric search, displaying related data in an encyclopedia-like entry, or using an API to access and obtain data from the directory tree structure. For at least these reasons the independent claim 41 is allowable over the teachings of Snow, Drucker, and their combination.

Claim 43 is directed to a method of performing a research task within a searchable database. The method of Claim 43 comprises the steps of performing one or more searches by utilizing a selective one or more search methodologies for each search, the search methodologies including keyword search, hierarchical search, <u>dichotomous key search, and parametric search</u>, to correlate a search criteria to the searchable database for generating one or more matching items, wherein the searchable database is formatted in a directory tree structure and each matching item represents a node from within the directory tree structure, wherein the node is a collection of related data, and further wherein as each successive search is performed the generated matching items represent nodes which reside further down the directory tree structure than the node from which the successive search is performed, categorizing each item of data by a navigation path through the directory tree structure and by one or more parameters which are specific to the node in which the data is included, and accessing a specific node within the directory tree structure <u>using a query string, wherein the query string defines the navigation path through the directory tree structure to access the specific node within the directory tree structure</u>. As discussed above, neither Snow, Drucker, nor there combination teach using a query string to access a specific node within the directory tree structure, using a dichotomous key search, and using a parametric search. For at least these reasons the independent claim 43 is allowable over the teachings of Snow, Drucker, and their combination.

Claims 44-46 depend on the independent claim 43. As described above, the independent claim 43 is allowable over the teachings of Snow, Drucker, and their combination. Accordingly, claims 44-46 are all also allowable as being dependent on an allowable base claim.

Claim 47 is directed to a method of performing a research task within a searchable database. The method of Claim 47 comprises the steps of, performing one or more searches by utilizing a selective one or more search methodologies for each search, the search methodologies including keyword search, hierarchical search, <u>dichotomous key search, and parametric search</u>, to correlate a search criteria to the searchable database for generating one or more matching items, wherein the searchable database is formatted in a directory tree structure and each matching item represents a node from within the directory tree structure, wherein the node is a collection of related data, and further wherein as each successive search is performed the generated matching items represent nodes which reside further down the directory tree structure than the node from which the successive search is performed, categorizing each item of data by a navigation path through the directory tree structure and by one or more parameters which are specific to the node in which the data is included, and <u>accessing one or more nodes within the directory tree structure</u>

and obtaining data from the one or more nodes by an external system utilizing an applications programming interface, wherein the applications programming interface accesses the one or more nodes within the directory tree structure using a query string, wherein the query string defines the navigation path through the directory tree structure to access the specific node within the directory tree structure. As discussed above, neither Snow, Drucker, nor there combination teach using an API to access and obtain data from the directory tree structure, using a query string to access a specific node within the directory tree structure, using a dichotomous key search, or using a parametric search. For at least these reasons the independent claim 47 is allowable over the teachings of Snow, Drucker, and their combination.

Claims 48 and 49 depend on the independent claim 47. As described above, the independent claim 47 is allowable over the teachings of Snow, Drucker and their combination. Accordingly, claims 48 and 49 are all also allowable as being dependent on an allowable base claim.

For the reasons given above, Applicant respectfully submits that claims 1-49 are now in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, he/she is encouraged to call the undersigned attorney at (408) 530-9700.

Respectfully submitted,
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Date: September 26, 2003

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